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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/032,757	12/27/2001	Angela Hui	G0728/2236P	5788

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EXAMINER

PIZARRO CRESPO, MARCOS D

ART UNIT PAPER NUMBER

2814

DATE MAILED: 02/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,757

Applicant(s)

HUI ET AL.

Examiner

Marcos D. Pizarro-Crespo

Art Unit

2814

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) 7-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Attorney's Docket Number: G0728/2236P

Filing Date: 12/27/2001

Claimed Foreign Priority Date: -- none --

Applicant(s): Hui et al.

Examiner: Marcos D. Pizarro-Crespo

DETAILED ACTION

This Office action responds to election in paper no. 5 filed on 1/28/2003.

Election/Restrictions

1. Applicant's election with traverse of claims 1-7 in paper no. 5 is acknowledged.
2. The traversal is on the ground(s) that:

Simply changing the step order in a method does not result in a materially different process. A method claim with the elements A, B, and C is the same invention as a method claim with elements A, C, and B. They are not distinct process.

This is not found persuasive because:

A method may establish a specific sequential relationship between its steps. Changing the established sequence of steps necessarily modifies the process by specifying a new step correlation.

3. The requirement is still deemed proper and is therefore made FINAL.
4. Claims 7-15 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 2, and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Lien (US 6338993).

7. Lien shows (see, e.g., fig. 7) all aspects of the instant invention including a semiconductor device including a core and a periphery region, the semiconductor device comprising:

- a plurality of core gate stacks in the core region **30**, each of the core gate stacks including a first polysilicon gate **240** and a WSi layer **250** above the first polysilicon gate **240**
- a plurality of sources **300** in the core region **30**, the plurality of sources **300** residing in a portion between the core gate stacks
- a plurality of periphery gate stacks in the periphery region **10, 20**, each of the plurality of periphery gate stacks including a second polysilicon gate **231, 232** and a CoSi layer **500** on the second polysilicon gate **231, 232**

8. Regarding claim 2, Lien shows (see, e.g., fig. 7) a plurality of core spacers **400**, each of the core spacers **400** residing along an edge of each of the core gate stacks.

9. Regarding claim 3, Lien shows (see, e.g., fig. 7) a plurality of periphery spacers **410**, each of the periphery spacers **410** residing along an edge of each of the periphery gate stacks.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lien in view of Yang (US 5977601).

13. Regarding claim 4, Lien shows most aspects of the instant invention (see, e.g., paragraphs 7-9 above). In addition, Lien shows that each of the core gate stacks includes the first polysilicon gate **240**, the WSi layer **250** above the first polysilicon gate **240**, and a layer **700** of polysilicon above the WSi layer **250**. Lien, however, fails to show a capping layer above the WSi layer.

Yang, on the other hand, teaches that a capping layer above Lien's WSi layer will work as an antireflective coating that may be used for many reduced-size critical

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dimensions, thus enabling the density of the gate stacks to be improved (see, e.g., fig. 2, col.4/ll.23-26, col.5/ll.39-46).

It would have been obvious at the time of the invention to one of ordinary skill in the art to provide a capping layer above Lien's WSi layer, as suggested by Yang, to improve the density of the core gate stacks.

14. Regarding claim 5, Yang teaches that the capping layer may be a SiN layer (col.4/ll.34).

15. Regarding claim 6, Yang teaches that the capping layer may be a SiON layer (col.4/ll.34).

Conclusion

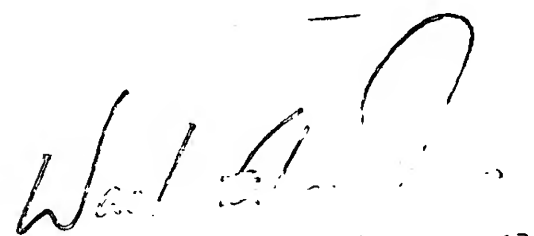
16. Papers related to this application may be submitted directly to Art Unit 2814 by facsimile transmission. Papers should be faxed to Art Unit 2814 via the Art Unit 2814 Fax Center located in Crystal Plaza 4, room 3C23. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (15 November 1989). The Art Unit 2814 Fax Center number is **(703) 308-7722** or **-7724**. The Art Unit 2814 Fax Center is to be used only for papers related to Art Unit 2814 applications.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Marcos D. Pizarro-Crespo** at **(703) 308-6558** and between the hours of 9:30 AM to 8:00 PM (Eastern Standard Time) Monday through Thursday or by e-mail via Marcos.Pizarro@uspto.gov. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy, can be reached on (703) 308-4918.

18. Any inquiry of a general nature or relating to the status of this application should be directed to the **Group 2800 Receptionist** at **(703) 308-0956**.

19. The following list is the Examiner's field of search for the present Office Action:

Field of Search	Date
U.S. Class / Subclass(es): 257 /288,314-326,368-377,382-385,390,391; 438 /142,197,257-267,275,283,584-588,592,652	2/13/2003
Other Documentation: PLUS Analysis	2/13/2003
Electronic Database(s): EAST (USPAT, EPO, JPO, PGPub)	2/13/2003


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